

PATENT ABSTRACTS OF JAPAN

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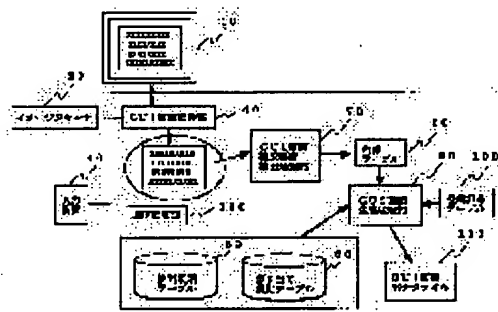
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(54) PICTURE GENERATING METHOD

(57)Abstract:

PROBLEM TO BE SOLVED: To shorten the design and generation period of a character user interface picture by determining components according to character strings of display items extracted and decided from the character user interface picture according to an extraction rule table, input formats, and an allocation rule table.

SOLUTION: When a character user interface(CUI) picture acquisition part 40 obtains image data of a CUI format picture, a CUI picture component extracting process part 70 performs pattern recognition for the image data to extract and store its component in an internal table 80. Then a GUI picture generating process part 90 decides the character strings of display items in the internal table 80 and input formats and allocates the components of the CUI picture to the GUI picture according to an extraction rule table 50 and an allocation rule table 60 to determine components, thereby generating a GUI picture. Consequently, the GUI picture taking over the constitution of the CUI picture can be generated without any human intervention, so the period needed to design and generate the GUI picture can be shortened.



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CLAIMS

[Claim(s)]

[Claim 1] In the screen generation method which generates the operation screen of graphical user interface form from the operation screen of the character user interface form displayed on an operating system The image data of the screen of the aforementioned character user interface form is acquired. Perform pattern recognition to the image data, and the component is extracted. It is based on the display rule of the aforementioned character user interface form. The character string of the display item on the screen of the aforementioned character user interface form, And judge an input form and the component of the screen of graphical user interface form is determined based on the character string of the judged display item and display rule of an input form and graphical user interface form. The screen generation method characterized by generating the screen of graphical user interface form.

[Claim 2] It is the screen generation method characterized by the display rule of the aforementioned character user interface form consisting of the break conditions of a display item character string and an input area, an input area start condition, input area end conditions, a comment field start condition, comment field end conditions, a comment item, and conditions of input code in a screen generation method given in the aforementioned claim 1.

[Claim 3] It is the screen generation method characterized by changing the display rule of the aforementioned character user interface form by directions of a user in a screen generation method given in either the aforementioned claim 1 or the claim 2.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]**[0001]**

[The technical field to which invention belongs] this invention is applied to the screen generation method which carries out design generation of the screen displayed in graphical user interface (GUI) form from the screen especially displayed in character user interface (CUI) form about the screen generation method which carries out design generation of the operation screen displayed on an operating system, and relates to effective technology.

[0002]

[Description of the Prior Art] In the conventional operating system which connects with a host computer through a network and performs business, there are some which are performing operation, check processing, etc. based on the screen displayed by CUI. However, on the screen of this CUI form, in order to have to input in a character or to have to check by looking, the present condition is that whose operability is not good. It has been required that this should change into the screen of operation and the GUI formation with sufficient visibility from the screen of CUI form. In change on the screen of this GUI form, an important thing completely differs from the screen of the existing CUI so that puzzlement may not be given to those who are operating it now -- as -- it is not designing. For this reason, in the former, the screen was redesigned using the GUI screen construction tool, looking at the hard copy of the screen of CUI form, and the screen of CUI form was changed into the screen of GUI form.

[0003]

[Problem(s) to be Solved by the Invention] however, by the above-mentioned conventional method, it completely differs from the screen of the existing CUI so that puzzlement may not be given to those who are operating it now -- as -- the work through the help of designing a screen using a GUI screen construction tool was required, looking at the hard copy of the screen of CUI form, since it is made not to design. For this reason, there was a trouble that the period which carries out design generation of the screen of GUI form became long. This invention is accomplished in order to solve the above-mentioned trouble, and the purpose is in offering the technology which can shorten the period which carries out design generation of the screen of GUI form.

[0004]

[Means for Solving the Problem] It will be as follows if the outline of a typical thing is briefly explained among invention indicated in this application. In the screen generation method which generates the operation screen of graphical user interface form from the operation screen of the character user interface form displayed on an operating system. The image data of the screen of the aforementioned character user interface form is acquired. Perform pattern recognition to the image data, and the component is extracted. It is based on the display rule of the aforementioned character user interface form. The character string of the display item on the screen of the aforementioned character user interface form, And an input form is judged, the component of the screen of graphical user interface form is determined based on the character string of the judged display item and display rule of an input form and graphical user interface form, and the screen of graphical user interface form is generated.

Since generation of the GUI screen which inherited the composition of a CUI screen can be performed through a help by this, it becomes possible to shorten the period which carries out design generation of the GUI screen.

[0005]

[Embodiments of the Invention] Drawing 1 is drawing showing the composition of the screen design processor which realizes the screen design method of one gestalt operation of this invention. The display 10 which displays the screen (it is hereafter described as a CUI screen) of the CUI form to change, and the screen (it is hereafter described as a GUI screen) of the GUI form after change as the screen design processor of this operation gestalt is shown in drawing 1, The image scanner 20 for acquiring an image data from the hard copy of a CUI screen etc., The input unit 30 which inputs the operator guidance from a user, and the CUI screen acquisition processing section 40 which acquires the image data of a CUI screen with the display 10 or image scanner 20, The extraction rule table 50 used in case the component of the acquired CUI screen is extracted, The quota rule table 60 which has the rule assigned for determining the component of the GUI screen assigned to the extracted component, The CUI screen component extraction processing section 70 which carries out pattern recognition of the acquired CUI screen, and extracts the component, The internal table 80 which stores the processing result of the CUI screen component extraction processing section 70, The GUI screen generation processing section 90 which assigns with the extraction rule table 50 and assigns the component (the content of an internal table 80) of a CUI screen to a GUI screen based on the rule table 60, It consists of a registration part table 100 which stores the parts used for the GUI screen generation, a GUI screen output file 110 which stores the generation result of the GUI screen generation processing section 90, and the rule change section 120 which changes both the rules 50 and 60 with directions of a user.

[0006] As the extraction rule table 50 mentioned above registered the letter symbol used as the criteria for recognizing the component of a CUI screen and it shown to drawing 2 in it What is used for the break of the character string (label) of a display item and an input area For example, ":", "(" and thing used for input area end are ")" and the thing used for a comment field start are defined as "(" and thing used for comment field end are ")", and what is used for a comment item and input code is defined for what is used for an input area start as "=".

[0007] As the quota rule table 60 registered the rule for acquiring with the parts of the GUI screen assigned to the component extracted on the CUI screen and it shown to drawing 3 in it, choosing the parts of a radio button output is defined as the parts of a check button output, and three or more input areas with comment alternative by the parts of an input-text output, and the input area with comment alternative to two pieces at a comment-alternative-less input area. A user can make a registration change according to the feature of a CUI screen of changing each of these rule tables 50 and 60 by the rule change section 120.

[0008] Next, composition extraction processing of the CUI screen component extraction processing section 70 is explained in detail using a drawing. Drawing 4 is drawing having shown the example of a CUI screen for explaining composition extraction processing of the CUI screen component extraction processing section 70. A screen size is made into 24-line 80 trains in the example of a CUI screen shown in this drawing 4, an undershirt dot is surrounded by the input area, an input area is surrounded by "()", and a comment is surrounded by "()", and the alternative is shown as "X=NN". In this example of a screen, the "input partition" and the "discount privilege" serve as alternative.

[0009] Drawing 5 is a flow chart which shows composition extraction processing of the CUI screen component extraction processing section 70. As composition extraction processing of the CUI screen component extraction processing section 70 is shown in drawing 5, the size of the image picture acquired in the image scanner 20 grade is first broken by 24-line 80 trains, and it asks for the size of one measure (Step 501). Henceforth, it is processed on the basis of this one measure.

[0010] This one measure is positioned in the 1st line (Step 502), and it positions in eye one train (Step 503). Then, a null is stored in an internal table 80, if the data pattern of one measure is extracted (Step 504) and there is no data pattern (Step 505) (Step 506).

[0011] "(01) 16" is stored in an internal table 80 if a data pattern is an undershirt dot (Step 507) (Step

508). In order to distinguish a null and an input area with this operation gestalt, "(01) 16" is used data other than a character code, and here.

[0012] In Step 507, if a data pattern is not an undershirt dot, character recognition of a data pattern is performed (Step 509), and the recognized character is stored in an internal table 80 (Step 510).

[0013] And when different [judge and (Step 511)] in whether one stored measure is eye 80 trains, it positions in the following train (Step 512), and returns to Step 504. In Step 511, when different [judge and (Step 513)] in whether it is the thing of the 24th line when one stored measure is also eye 80 trains, it positions in the following line (Step 514), and returns to Step 503. Thus, the component of a CUI screen is stored in an internal table 80.

[0014] Drawing 6 is drawing having shown the internal table 80 stored when [at which the example of a CUI screen shown in drawing 4 was mentioned above] composition extraction processing is carried out. An internal table 80 holds one-line 80 bytes of record as an array for 24 lines, as shown in drawing 6. In drawing 6, a white trigonum shows the null of half size and a black rectangular head shows 1 byte of binary data in which an input area is shown ("(01) 16").

[0015] Next, screen generation processing of the GUI screen generation processing section 90 is explained in detail using a drawing. Drawing 7 -9 are a flow chart which shows screen generation processing of the GUI screen generation processing section 90.

[0016] As shown in drawing 7 -9, first, screen generation processing of the GUI screen generation processing section 90 is positioned in the 1st line of an internal table 80 (Step 701), and acquires the data of eye one train (Step 702).

[0017] It judges whether by the data judging whether it is a "null" (Step 703), when it is a "null", the label flag is turned on [it] (Step 704), and if it is on, the character string of a before [blank] will be decided as a label character of a lump (Step 705), a label flag will be turned OFF (Step 706), and it will progress to Step 744.

[0018] In Step 704, when a label flag is off, it judges whether an output flag is on (Step 707), and if it is off, it will progress to Step 744, and if it is on, the "null" is stored in a character field (Step 708), and it progresses to Step 744. In addition, the initial value of each flag presupposes that it is off.

[0019] In Step 703, when it is not a "null", it judges whether it is a label input area delimiter (here ":") (Step 709). If it is ":", a character string will be outputted in front of the position of the character (Step 710), the position of the character will be evacuated as an input area (Step 711), an output flag will be turned OFF (Step 712), and it will progress to Step 744.

[0020] When it is not ":" in Step 709, it is an input area initial-statement character (here, it judges whether it is "(") (Step 713). " (if it is ", an input area beginning flag will be turned ON (Step 714), and it will progress to Step 744.)

[0021] In Step 713, it judges whether it is "(when it is not ", it is input area termination-character (here)")" (Step 715), and judges whether a comment flag is on if it is "" (Step 716), and if it is on, the label of a comment will judge or less in two (Step 717).

[0022] With two [or less], the parts of a check button are acquired from the registration part table 100, a check button is outputted in the 1st label character from an input position (Step 718), and it progresses to Step 720.

[0023] With three [or more], the parts of a radio button are acquired from the registration part table 100, a radio button is outputted in all label characters from an input position (Step 719), a comment flag is turned OFF (Step 720), an input flag is turned OFF (Step 721), and it progresses to Step 723.

[0024] In Step 716, when a comment flag is off, the input length of an input area is decided (Step 722), an input area beginning flag is turned OFF (Step 723), and it progresses to Step 744.

[0025] In Step 715, when it is not "", it judges whether it is a comment alternative character (here "=") (Step 724), it judges whether a comment flag is on if it is "=" (Step 725), and if it is on, the character string is decided as input code (Step 726), and a label flag is turned on (Step 727). Input code here is a character string demanded in the input in a CUI screen, and storing maintenance of it is carried out until it is used by the emulator program which makes connection with application. In Step 725, when a comment flag is off, it stores in a character field as a character string (Step 728).

[0026] In Step 724, when it is not "=", it judges whether it is an input area character (here "(01) 16") (Step 729), and if it is "(01) 16", an input flag will be turned ON (Step 730), +1 will be counted to input length (Step 731), and it will progress to Step 744.

[0027] In Step 729, when it is not "(01) 16", it judges whether an input area beginning flag is on or a label flag is on, if it judges (Step 732) and is on (Step 733), and if it is on, a label character will be evacuated (Step 734). In Step 733, if a label flag is off, a comment flag will be turned ON (Step 735) and the character of input code will be evacuated (Step 736).

[0028] In Step 732, it judges whether an input flag is on if an input area beginning flag is not on (Step 737), and if it is on, the parts of an input text will be acquired from the registration part table 100, an input text will be outputted to an input position (Step 738), and an input flag will be turned OFF (Step 739).

[0029] In Step 737, it judges (Step 740), if it is on, it will progress to Step 743, and if it is off, the character position will be evacuated (Step 741), an output flag will be turned ON (Step 742), and it will evacuate to a character string whether an output flag is on if an input flag is off (Step 743).

[0030] And whether data are the thing of eye 80 trains, and when different [judge and (Step 744)], it positions in the following train (Step 745), and it progresses to Step 703. It judges whether an output flag is on if it is the thing of eye 80 trains (Step 746), and if it is on, a character string will be outputted to the character position (Step 747), an output flag will be turned OFF (Step 748), and it will progress to Step 749.

[0031] In Step 746, if an output flag is off, whether the data is the thing of the 24th line, and when different [judge and (Step 749)], it will position in the following line (Step 750), and will progress to Step 702.

[0032] In Step 749, it judges whether an input flag is on if the data is the thing of the 24th line (Step 751), and if it is on, the parts of an input text will be acquired from the registration part table 100, an input text will be outputted to an input position (Step 752), and it will end. In Step 751, if an input flag is off, it will end.

[0033] In addition, with this operation gestalt, although it has composition with complicated "(" by which "is the same and is used for input area end and comment field end)" used for an input area start and a comment field start, if the flow chart mentioned above since it was the same does not have these same, it will become the simple composition which checks the item of the aforementioned extraction rule table 50 one by one.

[0034] As mentioned above, by screen generation processing of the GUI screen generation processing section 90, the component of a CUI screen is analyzed based on the item registered into the extraction rule table 50, it changes into the GUI screen, and the changed GUI screen is stored in the GUI screen output file 110.

[0035] The GUI screen where each character string became an output text, a customer code, a bar code, and quantity became an input text, the input partition became a radio button, and the discount privilege became a check button by screen generation processing mentioned above as the CUI screen shown in drawing 4 was shown in drawing 10 is generated.

[0036] Thus, it becomes possible to shorten the period which designs the screen of GUI form. Moreover, in order to generate the GUI screen which inherited the composition of the CUI screen shown in drawing 4, giving puzzlement to those who are operating it now is lost.

[0037] Therefore, it sets to the screen generation method which generates the operation screen of GUI from the operation screen of CUI displayed on an operating system. Acquire the image data of a CUI screen, perform pattern recognition to the image data, and the component is extracted. It is based on the item of an extraction rule table. The character string of the display item on a CUI screen, And by judging an input form, assigning with the character string of a display item and input form which were judged, determining the component of a GUI screen based on the item of a rule table, and generating a GUI screen Since generation of the GUI screen which inherited the composition of a CUI screen can be performed through a help, it becomes possible to shorten the period which carries out design generation of the GUI screen.

[0038] Furthermore, each part explained with this operation gestalt may be realized by the program which can be executed by computer, and a general user is provided with the program at that time with storages, such as a floppy disk, CD-ROM, and a mask ROM. In this case, it may provide for a user further combining the emulator program for using the screen generated with this operation gestalt besides these processings with the conventional application. Moreover, it may provide for counter value through networks, such as the Internet, as an alternative means to provide with the storage mentioned above.

[0039] As mentioned above, although invention made by this invention person was concretely explained based on the aforementioned operation gestalt, this invention of the ability to change variously in the range which is not limited to the aforementioned operation gestalt and does not deviate from the summary is natural.

[0040]

[Effect of the Invention] It will be as follows if the effect acquired by the typical thing among invention indicated in this application is explained briefly. Since generation of the GUI screen which inherited the composition of a CUI screen can be performed through a help, it becomes possible to shorten the period which carries out design generation of the GUI screen.

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TECHNICAL FIELD

[The technical field to which invention belongs] this invention is applied to the screen generation method which carries out design generation of the screen displayed in graphical user interface (GUI) form from the screen especially displayed in character user interface (CUI) form about the screen generation method which carries out design generation of the operation screen displayed on an operating system, and relates to effective technology.

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PRIOR ART

[Description of the Prior Art] In the conventional operating system which connects with a host computer through a network and performs business, there are some which are performing operation, check processing, etc. based on the screen displayed by CUI. However, on the screen of this CUI form, in order to have to input in a character or to have to check by looking, the present condition is that whose operability is not good. It has been required that this should change into the screen of operation and the GUI formation with sufficient visibility from the screen of CUI form. In change on the screen of this GUI form, an important thing completely differs from the screen of the existing CUI so that puzzlement may not be given to those who are operating it now -- as -- it is not designing. For this reason, in the former, the screen was redesigned using the GUI screen construction tool, looking at the hard copy of the screen of CUI form, and the screen of CUI form was changed into the screen of GUI form.

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EFFECT OF THE INVENTION

[Effect of the Invention] It will be as follows if the effect acquired by the typical thing among invention indicated in this application is explained briefly. Since generation of the GUI screen which inherited the composition of a CUI screen can be performed through a help, it becomes possible to shorten the period which carries out design generation of the GUI screen.

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MEANS

[Means for Solving the Problem] It will be as follows if the outline of a typical thing is briefly explained among invention indicated in this application. In the screen generation method which generates the operation screen of graphical user interface form from the operation screen of the character user interface form displayed on an operating system The image data of the screen of the aforementioned character user interface form is acquired. Perform pattern recognition to the image data, and the component is extracted. It is based on the display rule of the aforementioned character user interface form. The character string of the display item on the screen of the aforementioned character user interface form, And an input form is judged, the component of the screen of graphical user interface form is determined based on the character string of the judged display item and display rule of an input form and graphical user interface form, and the screen of graphical user interface form is generated. Since generation of the GUI screen which inherited the composition of a CUI screen can be performed through a help by this, it becomes possible to shorten the period which carries out design generation of the GUI screen.

[0005]

[Embodiments of the Invention] Drawing 1 is drawing showing the composition of the screen design processor which realizes the screen design method of one gestalt operation of this invention. The display 10 which displays the screen (it is hereafter described as a CUI screen) of the CUI form to change, and the screen (it is hereafter described as a GUI screen) of the GUI form after change as the screen design processor of this operation gestalt is shown in drawing 1, The image scanner 20 for acquiring an image data from the hard copy of a CUI screen etc., The input unit 30 which inputs the operator guidance from a user, and the CUI screen acquisition processing section 40 which acquires the image data of a CUI screen with the display 10 or image scanner 20, The extraction rule table 50 used in case the component of the acquired CUI screen is extracted, The quota rule table 60 which has the rule assigned for determining the component of the GUI screen assigned to the extracted component, The CUI screen component extraction processing section 70 which carries out pattern recognition of the acquired CUI screen, and extracts the component, The internal table 80 which stores the processing result of the CUI screen component extraction processing section 70, The GUI screen generation processing section 90 which assigns with the extraction rule table 50 and assigns the component (the content of an internal table 80) of a CUI screen to a GUI screen based on the rule table 60, It consists of a registration part table 100 which stores the parts used for the GUI screen generation, a GUI screen output file 110 which stores the generation result of the GUI screen generation processing section 90, and the rule change section 120 which changes both the rules 50 and 60 with directions of a user.

[0006] As the extraction rule table 50 mentioned above registered the letter symbol used as the criteria for recognizing the component of a CUI screen and it shown to drawing 2 in it What is used for the break of the character string (label) of a display item and an input area For example, ":", "(" and thing used for input area end are ")" and the thing used for a comment field start are defined as "(" and thing used for comment field end are ")", and what is used for a comment item and input code is defined for what is used for an input area start as "=".

[0007] As the quota rule table 60 registered the rule for acquiring with the parts of the GUI screen assigned to the component extracted on the CUI screen and it shown to drawing 3 in it, choosing the parts of a radio button output is defined as the parts of a check button output, and three or more input areas with comment alternative by the parts of an input-text output, and the input area with comment alternative to two pieces at a comment-alternative-less input area. A user can make a registration change according to the feature of a CUI screen of changing each of these rule tables 50 and 60 by the rule change section 120.

[0008] Next, composition extraction processing of the CUI screen component extraction processing section 70 is explained in detail using a drawing. Drawing 4 is drawing having shown the example of a CUI screen for explaining composition extraction processing of the CUI screen component extraction processing section 70. A screen size is made into 24-line 80 trains in the example of a CUI screen shown in this drawing 4, an undershirt dot is surrounded by the input area, an input area is surrounded by "()", and a comment is surrounded by "()", and the alternative is shown as "X=NN". In this example of a screen, the "input partition" and the "discount privilege" serve as alternative.

[0009] Drawing 5 is a flow chart which shows composition extraction processing of the CUI screen component extraction processing section 70. As composition extraction processing of the CUI screen component extraction processing section 70 is shown in drawing 5, the size of the image picture acquired in the image scanner 20 grade is first broken by 24-line 80 trains, and it asks for the size of one measure (Step 501). Henceforth, it is processed on the basis of this one measure.

[0010] This one measure is positioned in the 1st line (Step 502), and it positions in eye one train (Step 503). Then, a null is stored in an internal table 80, if the data pattern of one measure is extracted (Step 504) and there is no data pattern (Step 505) (Step 506).

[0011] "(01) 16" is stored in an internal table 80 if a data pattern is an undershirt dot (Step 507) (Step 508). In order to distinguish a null and an input area with this operation gestalt, "(01) 16" is used data other than a character code, and here.

[0012] In Step 507, if a data pattern is not an undershirt dot, character recognition of a data pattern is performed (Step 509), and the recognized character is stored in an internal table 80 (Step 510).

[0013] And when different [judge and (Step 511)] in whether one stored measure is eye 80 trains, it positions in the following train (Step 512), and returns to Step 504. In Step 511, when different [judge and (Step 513)] in whether it is the thing of the 24th line when one stored measure is also eye 80 trains, it positions in the following line (Step 514), and returns to Step 503. Thus, the component of a CUI screen is stored in an internal table 80.

[0014] Drawing 6 is drawing having shown the internal table 80 stored when [at which the example of a CUI screen shown in drawing 4 was mentioned above] composition extraction processing is carried out. An internal table 80 holds one-line 80 bytes of record as an array for 24 lines, as shown in drawing 6. In drawing 6, a white trigonum shows the null of half size and a black rectangular head shows 1 byte of binary data in which an input area is shown ("(01) 16").

[0015] Next, screen generation processing of the GUI screen generation processing section 90 is explained in detail using a drawing. Drawing 7 -9 are a flow chart which shows screen generation processing of the GUI screen generation processing section 90.

[0016] As shown in drawing 7 -9, first, screen generation processing of the GUI screen generation processing section 90 is positioned in the 1st line of an internal table 80 (Step 701), and acquires the data of eye one train (Step 702).

[0017] It judges whether by the data judging whether it is a "null" (Step 703), when it is a "null", the label flag is turned on [it] (Step 704), and if it is on, the character string of a before [blank] will be decided as a label character of a lump (Step 705), a label flag will be turned OFF (Step 706), and it will progress to Step 744.

[0018] In Step 704, when a label flag is off, it judges whether an output flag is on (Step 707), and if it is off, it will progress to Step 744, and if it is on, the "null" is stored in a character field (Step 708), and it progresses to Step 744. In addition, the initial value of each flag presupposes that it is off.

[0019] In Step 703, when it is not a "null", it judges whether it is a label input area delimiter (here ":")

(Step 709). If it is ":", a character string will be outputted in front of the position of the character (Step 710), the position of the character will be evacuated as an input area (Step 711), an output flag will be turned OFF (Step 712), and it will progress to Step 744.

[0020] When it is not ":" in Step 709, it is an input area initial-statement character (here, it judges whether it is "(" (Step 713)). " (if it is ", an input area beginning flag will be turned ON (Step 714), and it will progress to Step 744.)

[0021] In Step 713, it judges whether it is "(when it is not ", it is input area termination-character (here")" (Step 715), and judges whether a comment flag is on if it is "" (Step 716), and if it is on, the label of a comment will judge or less in two (Step 717).

[0022] With two [or less], the parts of a check button are acquired from the registration part table 100, a check button is outputted in the 1st label character from an input position (Step 718), and it progresses to Step 720.

[0023] With three [or more], the parts of a radio button are acquired from the registration part table 100, a radio button is outputted in all label characters from an input position (Step 719), a comment flag is turned OFF (Step 720), an input flag is turned OFF (Step 721), and it progresses to Step 723.

[0024] In Step 716, when a comment flag is off, the input length of an input area is decided (Step 722), an input area beginning flag is turned OFF (Step 723), and it progresses to Step 744.

[0025] In Step 715, when it is not "", it judges whether it is a comment alternative character (here "=") (Step 724), it judges whether a comment flag is on if it is "=" (Step 725), and if it is on, the character string is decided as input code (Step 726), and a label flag is turned on (Step 727). Input code here is a character string demanded in the input in a CUI screen, and storing maintenance of it is carried out until it is used by the emulator program which makes connection with application. In Step 725, when a comment flag is off, it stores in a character field as a character string (Step 728).

[0026] In Step 724, when it is not "=", it judges whether it is an input area character (here "(01) 16") (Step 729), and if it is "(01) 16", an input flag will be turned ON (Step 730), +1 will be counted to input length (Step 731), and it will progress to Step 744.

[0027] In Step 729, when it is not "(01) 16", it judges whether an input area beginning flag is on or a label flag is on, if it judges (Step 732) and is on (Step 733), and if it is on, a label character will be evacuated (Step 734). In Step 733, if a label flag is off, a comment flag will be turned ON (Step 735) and the character of input code will be evacuated (Step 736).

[0028] In Step 732, it judges whether an input flag is on if an input area beginning flag is not on (Step 737), and if it is on, the parts of an input text will be acquired from the registration part table 100, an input text will be outputted to an input position (Step 738), and an input flag will be turned OFF (Step 739).

[0029] In Step 737, it judges (Step 740), if it is on, it will progress to Step 743, and if it is off, the character position will be evacuated (Step 741), an output flag will be turned ON (Step 742), and it will evacuate to a character string whether an output flag is on if an input flag is off (Step 743).

[0030] And whether data are the thing of eye 80 trains, and when different [judge and (Step 744)], it positions in the following train (Step 745), and it progresses to Step 703. It judges whether an output flag is on if it is the thing of eye 80 trains (Step 746), and if it is on, a character string will be outputted to the character position (Step 747), an output flag will be turned OFF (Step 748), and it will progress to Step 749.

[0031] In Step 746, if an output flag is off, whether the data is the thing of the 24th line, and when different [judge and (Step 749)], it will position in the following line (Step 750), and will progress to Step 702.

[0032] In Step 749, it judges whether an input flag is on if the data is the thing of the 24th line (Step 751), and if it is on, the parts of an input text will be acquired from the registration part table 100, an input text will be outputted to an input position (Step 752), and it will end. In Step 751, if an input flag is off, it will end.

[0033] In addition, with this operation gestalt, although it has composition with complicated "(" by which "is the same and is used for input area end and comment field end)" used for an input area start

and a comment field start, if the flow chart mentioned above since it was the same does not have these same, it will become the simple composition which checks the item of the aforementioned extraction rule table 50 one by one.

[0034] As mentioned above, by screen generation processing of the GUI screen generation processing section 90, the component of a CUI screen is analyzed based on the item registered into the extraction rule table 50, it changes into the GUI screen, and the changed GUI screen is stored in the GUI screen output file 110.

[0035] The GUI screen where each character string became an output text, a customer code, a bar code, and quantity became an input text, the input partition became a radio button, and the discount privilege became a check button by screen generation processing mentioned above as the CUI screen shown in drawing 4 was shown in drawing 10 is generated.

[0036] Thus, it becomes possible to shorten the period which designs the screen of GUI form. Moreover, in order to generate the GUI screen which inherited the composition of the CUI screen shown in drawing 4, giving puzzlement to those who are operating it now is lost.

[0037] Therefore, it sets to the screen generation method which generates the operation screen of GUI from the operation screen of CUI displayed on an operating system. Acquire the image data of a CUI screen, perform pattern recognition to the image data, and the component is extracted. It is based on the item of an extraction rule table. The character string of the display item on a CUI screen, And by judging an input form, assigning with the character string of a display item and input form which were judged, determining the component of a GUI screen based on the item of a rule table, and generating a GUI screen Since generation of the GUI screen which inherited the composition of a CUI screen can be performed through a help, it becomes possible to shorten the period which carries out design generation of the GUI screen.

[0038] Furthermore, each part explained with this operation gestalt may be realized by the program which can be executed by computer, and a general user is provided with the program at that time with storages, such as a floppy disk, CD-ROM, and a mask ROM. In this case, it may provide for a user further combining the emulator program for using the screen generated with this operation gestalt besides these processings with the conventional application. Moreover, it may provide for counter value through networks, such as the Internet, as an alternative means to provide with the storage mentioned above.

[0039] As mentioned above, although invention made by this invention person was concretely explained based on the aforementioned operation gestalt, this invention of the ability to change variously in the range which is not limited to the aforementioned operation gestalt and does not deviate from the summary is natural.

[Translation done.]

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] however, by the above-mentioned conventional method, it completely differs from the screen of the existing CUI so that puzzlement may not be given to those who are operating it now -- as -- the work through the help of designing a screen using a GUI screen construction tool was required, looking at the hard copy of the screen of CUI form, since it is made not to design. For this reason, there was a trouble that the period which carries out design generation of the screen of GUI form became long. this invention is accomplished in order to solve the above-mentioned trouble, and the purpose is in offering the technology which can shorten the period which carries out design generation of the screen of GUI form.

[Translation done.]

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is drawing showing the composition of the screen design processor which realizes the screen design method of one gestalt operation of this invention.

[Drawing 2] It is drawing having shown the example of composition of the extraction rule table 50.

[Drawing 3] It is drawing having shown the example of composition of the quota rule table 60.

[Drawing 4] It is drawing having shown the example of a CUI screen for explaining composition extraction processing of the CUI screen component extraction processing section 70.

[Drawing 5] It is the flow chart which shows composition extraction processing of the CUI screen component extraction processing section 70.

[Drawing 6] It is drawing having shown the example of composition of an internal table 80.

[Drawing 7] It is the flow chart which shows screen generation processing of the GUI screen generation processing section 90.

[Drawing 8] It is the flow chart which shows screen generation processing of the GUI screen generation processing section 90.

[Drawing 9] It is the flow chart which shows screen generation processing of the GUI screen generation processing section 90.

[Drawing 10] It is drawing having shown the generated example of a GUI screen.

[Description of Notations]

10 [-- An input unit, 40 / -- The CUI screen acquisition processing section, 50 / -- An extraction rule table, 60 / -- A quota rule table, 70 / -- The CUI screen component extraction processing section, 80 / -- An internal table, 90 / -- The GUI screen generation processing section, 100 / -- A registration part table, 110 / -- A GUI screen output file, 120 / -- Rule change section.] -- Display, 20 -- An image scanner, 30

[Translation done.]

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DRAWINGS

[Drawing 3]

図 3

注釈なし	入力テキスト
注釈選択肢数が2以下	チェックボタン
注釈選択肢数が3以上	ラジオボタン

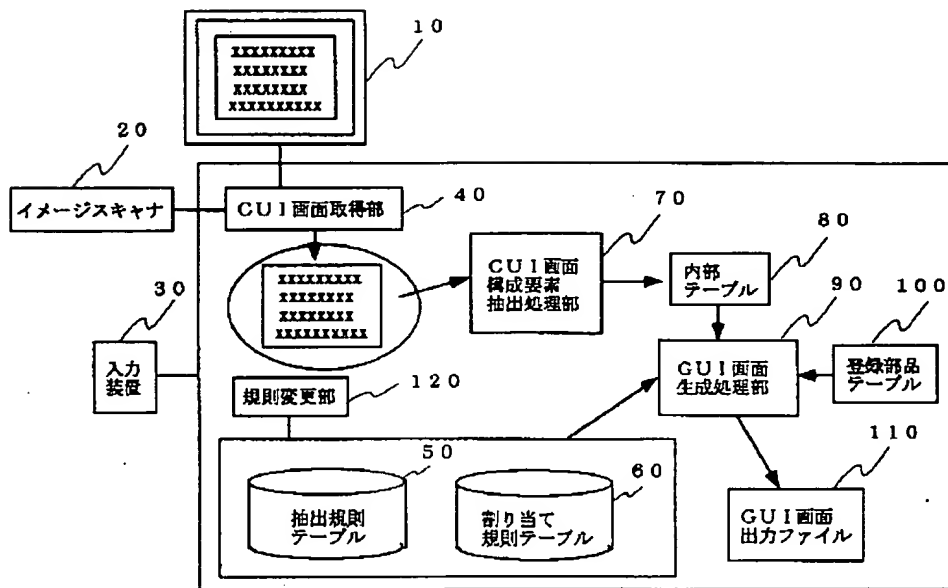
[Drawing 4]

図 4

受 注 入 力 画 面	
得意先コード : (.....)	
入 力 区 分 : (.) (1=現金 2=手形 3=銀行振込)	
商品コード : (.....)	
数 量 : (.....)	
割 引 特 典 : (.) (1=割引あり 2=割引なし)	

[Drawing 1]

図 1



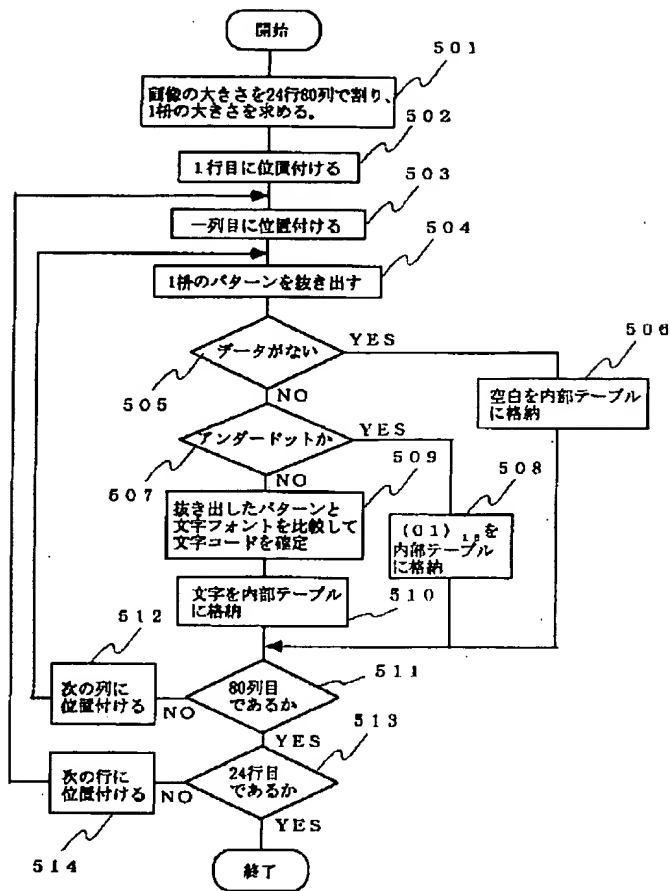
[Drawing 2]

図 2

ラベルと入力領域との区切	:	50
入力領域開始	(
入力領域終了)	
注釈領域開始	(
注釈領域終了)	
注釈選択肢	=	

[Drawing 5]

図 5



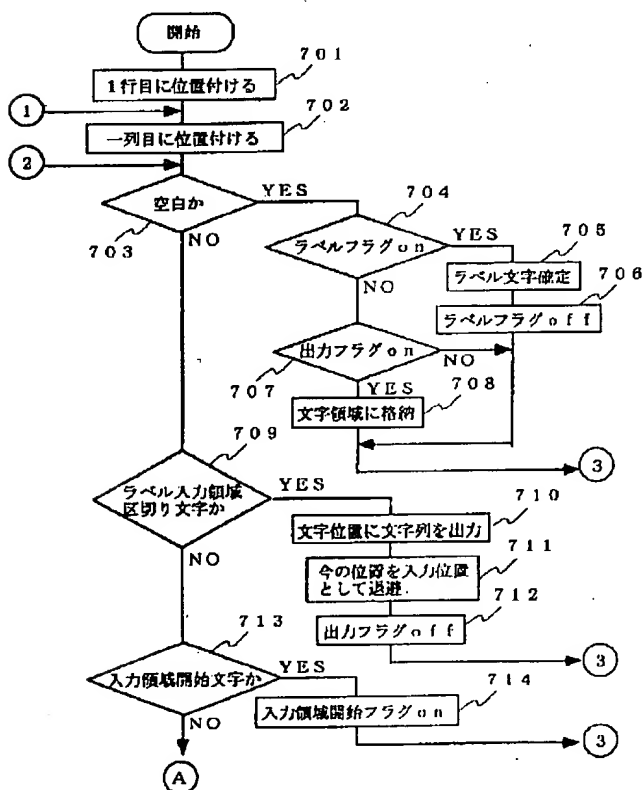
[Drawing 6]

图 6

[illegible]

[Drawing 7]

图 7



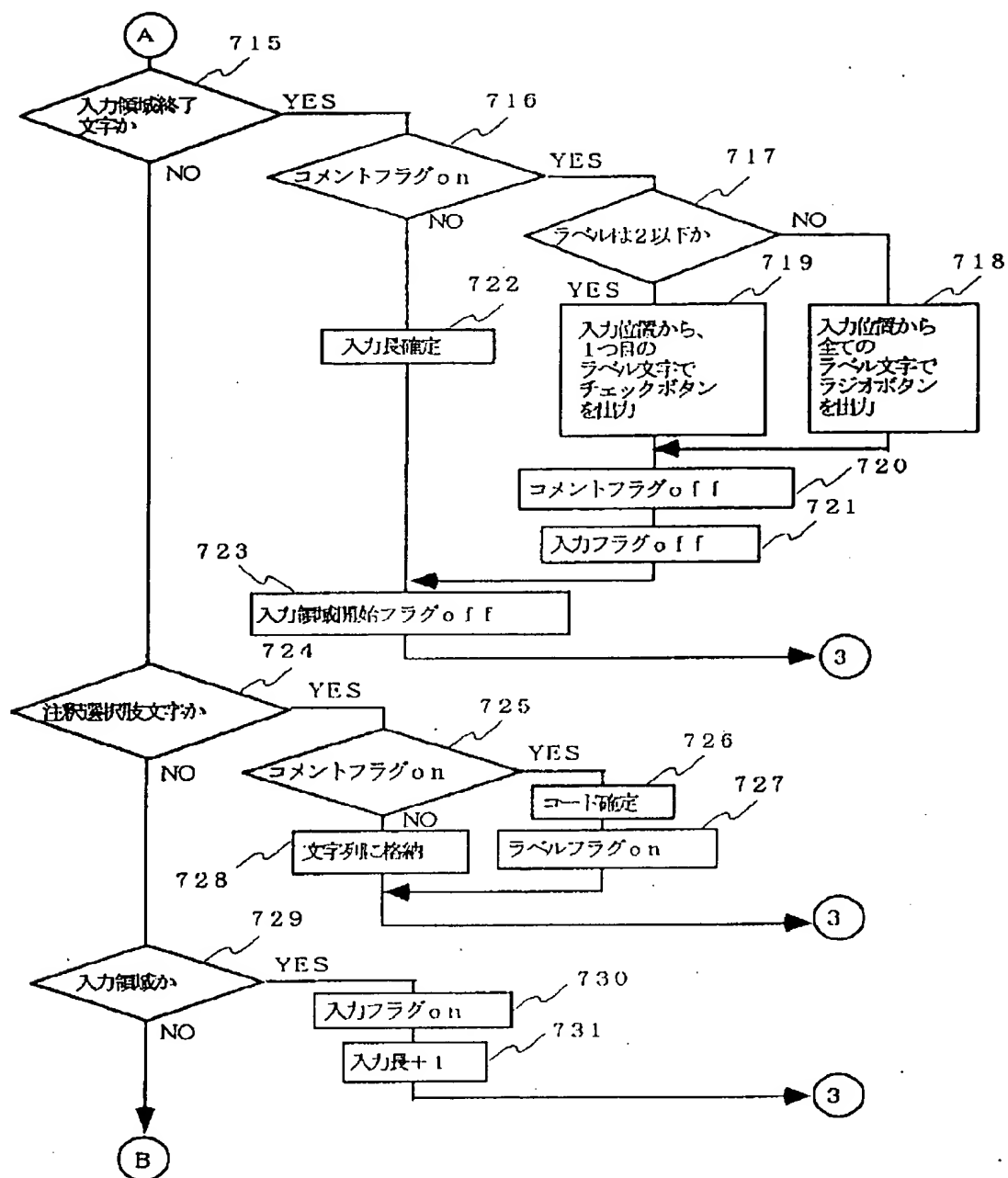
[Drawing 10]

図 10

受 入 入 力 画 面	
得意先コード	<input type="text"/>
入 力 区 分	<input checked="" type="radio"/> 現金 <input type="radio"/> 手形 <input type="radio"/> 銀行振込
商品コード	<input type="text"/>
数 量	<input type="text"/>
割 引 特 典	<input type="checkbox"/> 割引あり

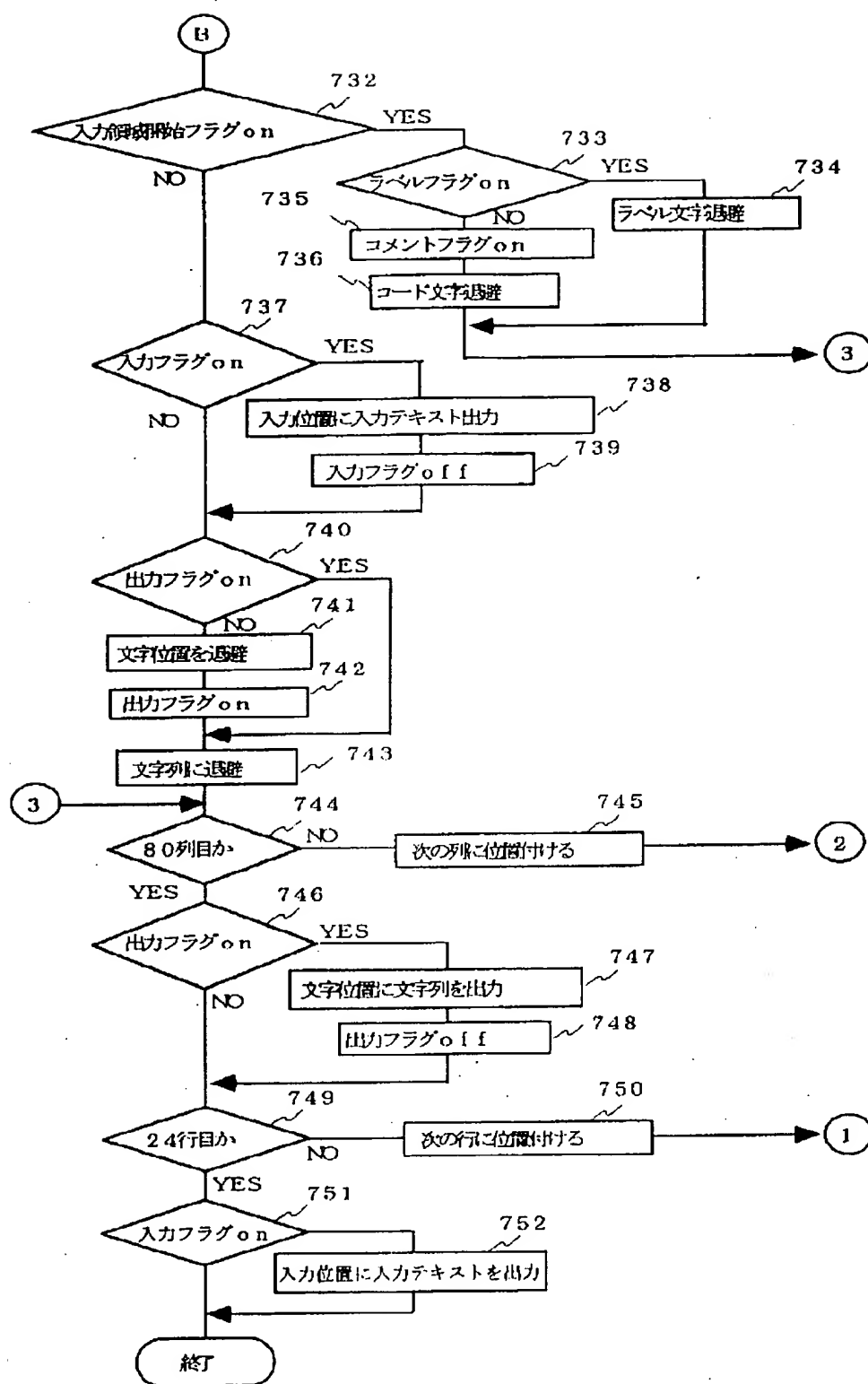
[Drawing 8]

図 8



[Drawing 9]

図 9



[Translation done.]